

Claims

1. A feed mechanism for feeding a material (1, 2) to be processed into a working assembly (3) included in a sheet processing line, said feed mechanism comprising equipment (4, 5) for handling both single sheets (2) and a strip (1) unloaded from a reel, and which equipment optionally provides a guidance either for the single sheets (2) or the strip (1) onto an entry track (6) to the working assembly (3),
characterized in that the feed mechanism comprises
at least one web guide (14) provided on an entry side (7) of the working assembly (3) on either side of the entry track (6) for guiding sides (15, 16) of the single sheet (2) or the strip (1) which are parallel to the entry track (6), such that at least one of the web guides (14) present on the opposite sides of the single sheet (2) or the strip (1) is equipped with a positioning element (17) for shifting the single sheet (2) or the strip (1) to a desired position in a direction crosswise to the entry track's (6) lengthwise direction,
a first feeder (9), provided on the working assembly's (3) entry side (7) and shuttling co-directionally with the entry track (6), which is equipped with grippers (25) taking hold of the opposite sides (15, 16) of the single sheet (2) or the strip (1) and being adapted to move by one or more positioning elements (10) for shifting the single sheet (2) or the strip (1) to a desired position in a direction crosswise to the direction of the entry track,
a barrier (11) for determining the position for a leading edge (13) of the single sheet (2) or the strip (1),
a feeding means (12) provided on the working assembly's (3) entry side (7) for bringing the leading edge (13) of the single sheet (2) or the strip (1) against said barrier (11),
at least one arrest cylinder (18) provided on the working assembly's (3) entry side (7) for immobilizing the subsequently processed single sheet (2) or strip (1) relative to the entry track (6),
at least one web guide (22) provided on either side of the entry track (6) on the working assembly's (3) exit side (8) for guiding the sides (15, 16) of the single sheet (2) or the strip (1) which are parallel to the entry track (6), such that at least one of the web guides (22) present on the opposite sides of the single sheet (2) or the strip (1) is equipped with a positioning element (17) for shifting the single sheet (2) or the strip (1) to a desired position in a direction crosswise to the entry track's (6) lengthwise direction,
a second feeder (19), provided on the working assembly's (3) exit side (8) and

adapted to shuttle parallel to the entry track (6), which is equipped with a gripper (21) taking hold of the leading or side edge (13, 15, 16) of the single sheet (2) or the strip (1) or a piece (20) to be removed from the single sheet (2) or the strip (1), said gripper being adapted to travel in a direction crosswise to the direction of the entry track (6), and

at least one arrest cylinder (18) provided on the working assembly's (3) exit side (8) for immobilizing the processed single sheet (2) or strip (1) relative to the entry track (6).

2. A feed mechanism as set forth in claim 1, **characterized** in that the first feeder (9) has its positioning element (10) adapted to center the single sheet (2) or the strip (1) relative to a longitudinal center line (23) of the entry track (6).
3. A feed mechanism as set forth in claim 1, **characterized** in that the barrier (11) comprises an immobilizing stopper.
4. A feed mechanism as set forth in claim 1, **characterized** in that the feeding means (12) for bringing the leading edge (13) of the single sheet (2) or the strip (1) against the barrier (11) includes a flexible element (24) for urging said leading edge (13) tightly against the barrier (11).
5. A feed mechanism as set forth in claim 4, **characterized** in that the flexible element comprises a suction pad, a magnet or the like gripper element (24) functioning as a gripper element of the feeding means (12).
6. A feed mechanism as set forth in claim 1, **characterized** in that the web guides (14, 22), provided on the working assembly's (3) entry side (7) and exit side (8) and mounted on the opposite sides (15, 16) of the single sheet (2) or the strip (1), are adapted to center the entry track (6) relative to the longitudinal center line (23).
7. A feed mechanism as set forth in claim 1, **characterized** in that the feeder (19) has its gripper/grippers (21) further adapted to travel in a vertical direction.
8. A feed mechanism as set forth in claim 7, **characterized** in that the grippers (21) are adapted to perform vertical motions thereof independently of each other.
9. A feed mechanism as set forth in claim 1, **characterized** in that the working assembly's (3) exit side (8) is provided with a first conveyor (26), extending parallel to the entry track's (6) plane, and with a second conveyor therebelow, and that further provided is an adjustable guide element (28) for guiding the pieces (20) to be removed from the strip (1) or the single sheet (2) onto the desired conveyor (26, 27).